MT632²

Dual Channel Digital Thermometer
User Manual

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The two input contact thermometers offer fast response and laboratory accuracy. These thermometers work with tow K-type or J-type thermocouples as temperature sensors, and it offered 0.1℃/0.1℉resolution.

1.Specifications

General Specifications	
Battery	AAA 3 x 1.5V
Operating Temperature	0°C to 50°C (4°F to 122°F) **Noncondensing**
Storage Temperature	10°C to 50°C (14°F to 122°F)
Temperature Range:	
K type thermocouples	-200°C to 1372°C (-328°F to 2501 °F)
J type thermocouples	-210°C to 1100°C (-346°F to 2012°F)
Temperature accuracy	
T1, T2 Above –100°C (-148°F)	[0.15%rgd+1°C(1.8 °F)]
T1, T2 Blow –100°C (-148°F)	[0.5%rgd+2°C(3.6 °F)]
T1-T2	[0.5%rgd+1°C(1.8°F)]
Display Resolution	0.1°C /℉ / K <1000 ,1°C /℉ / K >1000

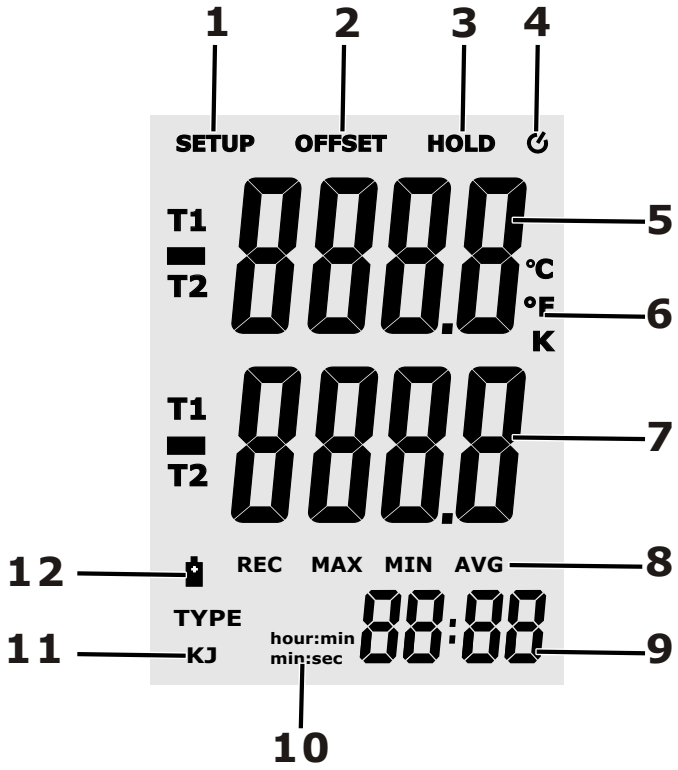
2.Features

- Large backlit display shows any combination of T1, T2, T1-T2, plus MAX, MIN, AVG.
- Relative time clock on MAX MIN and AVG provides a time reference for major events.
- Electronic Offset function allows compensation of thermocouple errors to maximize overall accuracy.
- Work with tow K-type or J-type thermocouples as temperature sensors.
- Readout in °C, °F, or Kelvin (K).
- Auto Power Off mode (Sleep mode) increases battery life.

3.Button

- Press ⏻ to turn the thermometer on or off.
- When the thermometer is in Setup mode, press Enter to enter a setup option and press Enter again to store the displayed setting in memory.
- Press T_1 T_2 / T_1-T_2 to toggle showing the T1, T2, and T1-T2 (differential temperature measurement) in the primary and secondary.
- Press C·F·K to switch between Celsius (°C), Fahrenheit (°F), and Kelvin (K).
- Press HOLD to freeze or unfreeze the displayed readings. When the thermometer is in Setup mode, press HOLD to scroll to the Setup option you want to change or press HOLD to increase the displayed setting.
- Press Max Min to step through the maximum, minimum, and average readings. When readings, shows the maximum, minimum, and average of the logged readings. To exit the MIN/MAX/AVG mode, press the Max Min button for 3 seconds to return to normal operation. When the thermometer is in Setup mode, press Max Min to scroll to the Setup option you want to change or press Max Min to decrease the displayed setting.
- Press Set button to turn on the backlight. Press it again to turn off the backlight. Press Set button for 3 seconds to start or exit Setup. (See "Changing Setup Options.")

Display Elements



1. Entering or Exiting Setup.
2. Offset option.
3. Freeze the displayed readings.
4. Auto Power Off mode sign.
5. Primary Display: T1, T2, T1-T2 reading.
6. The temperature units. .
7. Secondary Display: MAX, MIN, AVG, or offset,T1 or T2 reading.
8. MAX, MIN, AVG display.
9.Time display.
10. Min:sec or hour: min Display.
11. Thermocouple type K or J.
12. Low battery. Replace the batteries.

Using the thermocouple (s)

- Plug the thermocouple(s) into the T1or T2 input connector(s).
- Press ⏻ to turn on the thermometer. After 1 second the thermometer displays the first reading. If no thermocouple is plugged into the selected input or the thermocouple is "open," the display shows "- - - -".

Changing Setup Options

Use Setup to change offset, sleep mode settings. The thermometer stores the settings in its memory.

4.Setup Options

Option	Menu item	Settings
Type	TYPE	K or J
Offset	OFFSET	T1 or T2
Sleep Mode	SLP	On (sleep mode on)or 0FF (sleep modeoff)

Entering or Exiting Setup

When the thermometer is in Setup mode, the display shows SETUP. Press Set button for 3 seconds start or exit Setup.

Changing a Setup Option

- Press HOLD or MAN NIM to scroll to the setup option you want to change.
- Press Enter to indicate that you want to change this setting.
- Press HOLD or MAN NIM until the setting you want to use appears on the display.
- Press Enter to store the new setting in memory.

Notes:

Setup is disabled in MIN MAX mode.

Offset

The primary display shows the temperature plus the offset and the secondary display shows the offset. .You can store individual offsets for T1, T2.

5.Auto Power Off mode

The thermometer enters sleep mode (default). That is to say, the meter will automatically shut off after 20 minutes if no button press occurs for 20 minutes.

When the thermometer is in Setup mode, the display shows SETUP. Press HOLD or MAN NIM to scroll to the " SLP " page . Press Enter to indicate "On" or "OFF". Press HOLD or MAN NIM until the setting you want to use appears on the display. Press Enter to store the new setting in memory. On (sleep mode on) or 0FF (sleep mode off).

6.Measuring Temperatures

Connecting a Thermocouple

To change the thermocouple type, see "Changing Setup Options." The North American ANSI Color Code is:

Type	J	K
Color	Black	Yellow

- Plug a thermocouple into the input connector(s).(Make sure that the polarity is correct.)
- Set the thermometer for the correct thermocouple type.

Displaying Temperatures

- Press C·F·K to select the correct temperature scale.
- Hold or attach the thermocouple(s) to the measurement location.

The temperature reading appears in the primary display.

- Press (T1 T2 / T1-T2) to toggle between showing the T1, T2, , and T1-T2 readings in the primary or secondary display.

Notes

The display shows "- - - -" when a thermocouple is not connected.
The display shows OL (overload) when the temperature being measured is outside the thermocouple's valid range.

Holding the Displayed Readings

- Press (HOLD) to freeze the readings on the display .The display shows HOLD.
- Press (T1 T2 / T1-T2) to toggle showing the T1, T2, or T1-T2 readings in the primary or secondary display.
- Press (HOLD) again to turn off the HOLD function.

Viewing the MIN, MAX, and AVG Readings

- Press (MAN NIM) to step through the maximum (MAX), minimum (MIN), or the average (AVG) readings. The elapsed time since entering MIN MAX mode, or the time at which the minimum or maximum occurred appears on the display.
- Press (MAN NIM) button for 3 seconds to exit MAX, MIN and AVG mode

Using the Offset to Adjust for Probe Errors

Use the offset option in Setup to adjust the thermometer's readings to compensate for the errors of a specific the thermocouple and IR temperature. The allowable adjustment range is ± 5.0 0C or ± 9.0 0F.

- Plug the thermocouple into the input connector.
- Place the thermocouple in a known, stable temperature environment (such as an ice dry well calibrator).
- Allow the readings to stabilize.
- In Setup change the offset until the primary reading matches the calibration temperature.(“Changing Setup Options.").

Replacing the Batteries

- Turn off the thermometer if necessary.
- Loosen the screw and remove the battery door.
- Replace 1.5V batteries.
- Replace the battery door and tighten the screw.

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